Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A continuous process for the manufacture of 3-(methylthio) propionaldehyde, the process comprising:

(a) subjecting propylene to vapor-phase oxidation using a catalyst, to obtain a crude acrolein-based product;

(b) removing acids present in the crude acrolein-based product;

(c) absorbing the crude acrolein-based product with water to obtain an aqueous acrolein solution;

(d) purifying the aqueous acrolein solution to obtain purified gaseous acrolein by a process comprising:

introducing the aqueous acrolein solution into a distillation column equipped at its base with at least one boiler and at its top with at least one condenser,

withdrawing a liquid mixture essentially comprising water at the base of the distillation column,

withdrawing a gas mixture essentially comprising acrolein and water at the top of the distillation column,

cooling the gas mixture withdrawn at the top of the distillation column in the condenser, to a temperature which makes it possible to obtain, on the one hand, an aqueous condensate and, on the other hand, an acrolein-rich gas mixture, and

withdrawing the acrolein-rich gas mixture; and

(e) reacting the purified gaseous acrolein with methyl mercaptan, to obtain 3-(methylthio) propionaldehyde;

wherein:

noncondensable gases produced in step (a) are separated from the acrolein prior to step (e).

2. (Previously Presented) The process as claimed in claim 1, wherein the noncondensable gases produced in step (a) are separated from the acrolein prior to step (d).

3. (Previously Presented) The process as claimed in claim 2, wherein the noncondensable gases produced in step (a) are separated from the acrolein prior to step (c).

4. (Previously Presented) The process as claimed in claim 3, wherein the noncondensable gases produced in step (a) are separated from the acrolein in steps (b) and (c).

5. (Previously Presented) The process as claimed in claim 1, wherein the noncondensable gases separated from the acrolein are recycled to the vapor-phase oxidation reaction of step (a).

6. (Previously Presented) The process as claimed in claim 1, wherein the noncondensable gases separated from the acrolein are discharged and incinerated.

7. (Previously Presented) A continuous process for the manufacture of 3-(methylthio) propionaldehyde, the process comprising:

(a) subjecting propylene to vapor-phase oxidation using a catalyst, to obtain a crude acrolein-based product;

(b) removing acids present in the crude acrolein-based product;

(c) absorbing the crude-acrolein product with water to obtain an aqueous acrolein solution separated from noncondensable gases,

(d) purifying the aqueous acrolein solution to obtain purified gaseous acrolein by a process comprising:

introducing the aqueous acrolein solution into a distillation column equipped at its base with at least one boiler and at its top with at least one condenser,

withdrawing a liquid mixture essentially comprising water at the base of the distillation column,

withdrawing a gas mixture essentially comprising acrolein and water at the top of the distillation column,

cooling the gas mixture withdrawn at the top of the distillation column in the condenser, to a temperature which makes it possible to obtain, on the one hand, an aqueous condensate and, on the other hand, an acrolein-rich gas mixture, and

withdrawing the acrolein-rich gas mixture, and

(e) reacting the purified gaseous acrolein directly with methyl mercaptan to obtain 3-(methylthio) propionaldehyde.

8. (Previously Presented) The process as claimed in claim 1, wherein purified gaseous acrolein is reacted with gaseous methyl mercaptan in step (e).

9. (Canceled)

10. (Previously Presented) The process as claimed in claim 1, wherein the aqueous acrolein solution has a concentration of acrolein of less than or equal to the solubility limit of acrolein in water.

11. (Currently Amended) The process as claimed in claim 1, wherein the distillation column is maintained at a pressure P and the temperature in the condenser is maintained at a value T according to ~~the equation~~ $T>21.28*P+32.9$.

12. (Previously Presented) The process as claimed in claim 11, wherein the distillation column is maintained at atmospheric pressure and the temperature in the condenser is maintained at a value of greater than 54°C.

13. (Previously Presented) The process as claimed in claim 1, wherein the acrolein-rich gas mixture has an acrolein concentration ranging from 86 to 95% by weight .

14. (Previously Presented) The process as claimed in claim 1, wherein the condensate is at least partially reintroduced into the distillation column.

15. (Previously Presented) The process as claimed in claim 14, wherein all of the condensate is reintroduced at the top of the distillation column.

16. (Currently Amended) A process for the purification of acrolein, the process comprising:

introducing an aqueous acrolein solution into a distillation column equipped at its base with at least one boiler and at its top with at least one condenser,

withdrawing a liquid mixture comprising water at the base of the distillation column,

withdrawing a gas mixture comprising acrolein at the top of the distillation column,

cooling the gas mixture withdrawn at the top of the distillation column in the condenser, to a temperature which makes it possible to obtain, on the one hand, an aqueous condensate and, on the other hand, an acrolein-rich gas mixture, and

withdrawing the acrolein-rich gas mixture,

wherein:

the liquid mixture withdrawn at the base of the distillation column is a nonazeotropic liquid mixture essentially comprising water;

the aqueous condensate is substantially depleted in acrolein; and

the acrolein-rich gas mixture is substantially enriched in acrolein.

17. (Previously Presented) The process as claimed in claim 16, wherein the gas mixture obtained at the distillation column top comprises, by volume, between 30% and 70% of water.

18 (Currently Amended) The process as claimed in claim 7, wherein the methyl mercaptan of step (e) is ~~carried out between methyl mercaptan and acrolein maintained~~ in the gas phase.

19. (Canceled)